Fitle GENETIC FUNCTIONS REQUIRED Inventor Vicki L CHANDLER et al. ART UNIT 1638. Appln No. 09 972.805. Docket No. 416272061200. Sheet Lof 32.

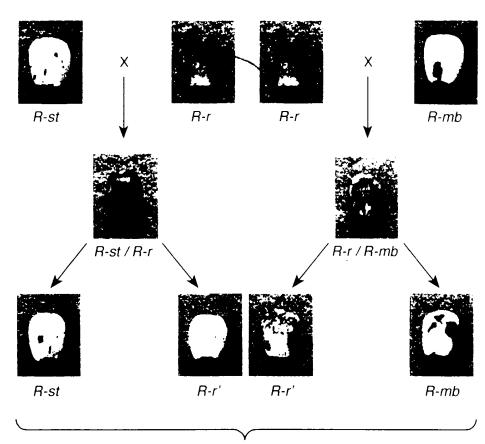
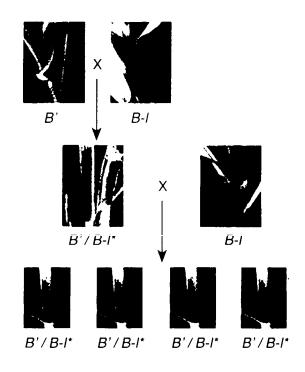


FIG._1A

Title GENETIC FUNCTIONS REQUIRED Inventor Vicki L CHANDLER et al ART UNIT 1638

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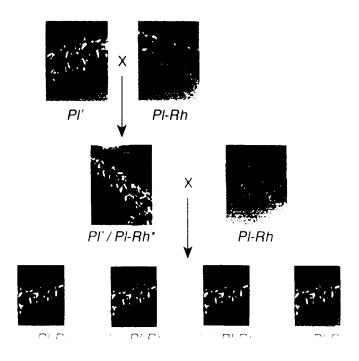
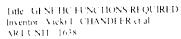


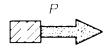
FIG._1B



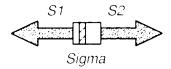
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Paramutable

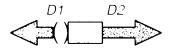








R-d:Catspaw Colored Seed. Red Plant



Paramutagenic

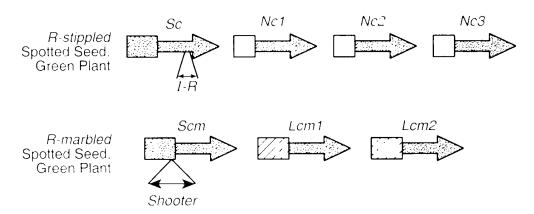
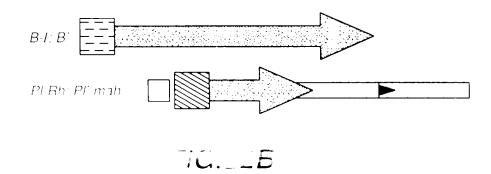


FIG._2A



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FIG._3A FIG._3B FIG._3C

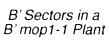
B' Mop1 / mop1-1 B' mop1-1 / mop1-1 B-I Mop1 / Mop1













Pl' Mop1 / -



Pl' mop1-1 / mop1-1

FIG._3D FIG._3E FIG._3F

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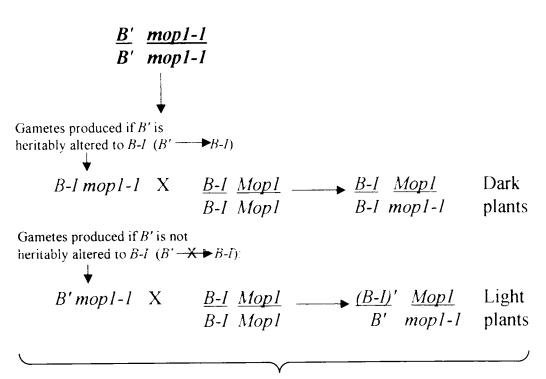


FIG._4A

<u>Pl'</u> <u>mop1-1</u> Pl' <u>mop1-1</u>

Gametes produced if Pl' is heritably altered to Pl-Rh ($Pl' \longrightarrow Pl$ -Rh)

 $Pl-Rh \ mop1-1 \ \ X \ \underline{Pl-Rh} \ \underline{Mop1} \longrightarrow \underline{Pl-Rh} \ \underline{Mop1} \ Dark \\ Pl-Rh \ Mop1 \longrightarrow Pl-Rh \ mop1-1 \ anthers$

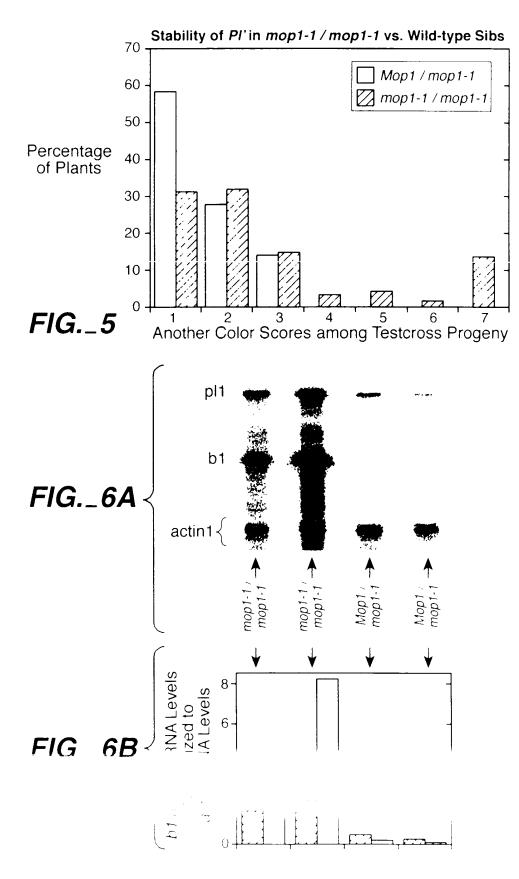
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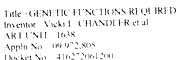
Gametes produced if Pl' is not heritably altered to Pl-Rh ($Pl' - X \rightarrow Pl$ -Rh)

FIG._4B

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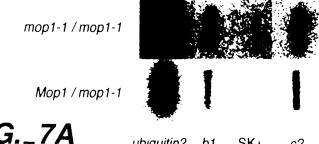
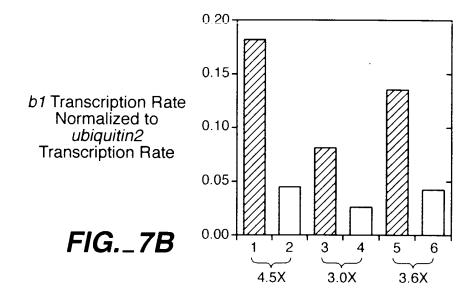
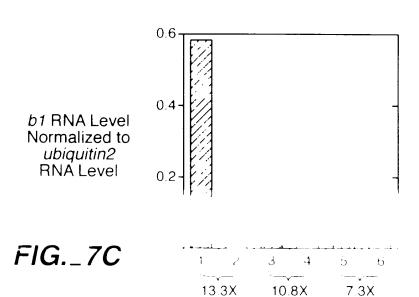


FIG._7A

ubiquitin2 b1 SK+ *c*2





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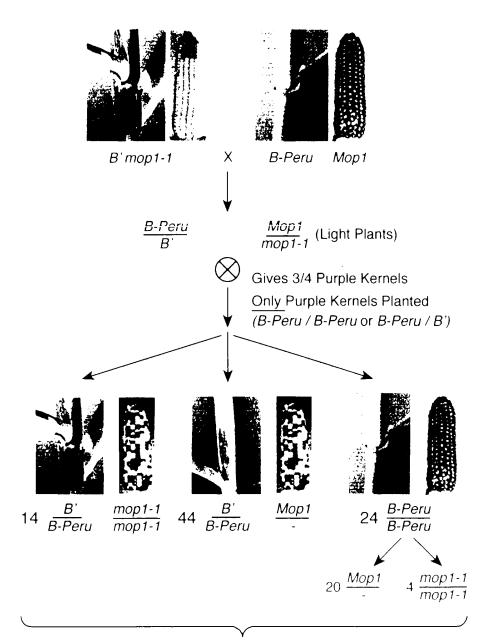


FIG._8

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<u>mop1-1</u> B-I Mop1 mop1-1 X b-K55 mop1-1 Dark plants Dark plants <u>B'</u> <u>mop1-1</u> <u>B'</u> <u>B'</u> mop1-1 <u>mop1-1</u> <u>B'</u> mop1-1 B-I mop1-1 b-K55 mop1-1 B-I Mop1 b-K55 Mop1 Dark plants Light plants Dark plants Light plants

Testcross (by B-Peru/B-I Mop I Mop I tester-diagram shows only B-Peru gametes of tester)

Gametes produced if paramutation is prevented $(B-I \rightarrow B')$:

50% B' mopl-1 X B-Peru Mopl \longrightarrow B' mopl-1 Light B-Peru Mopl plants

50% B-I mop1-1 X B-Peru Mop1 → B-I mop1-1 Dark B-Peru Mop1 plants

Gametes produced if paramutation occurred $(B-I \longrightarrow B')$:

100% B' mop1-1 X B-Peru Mop1 → B' mop1-1 Light B-Peru Mop1 plants

FIG._9

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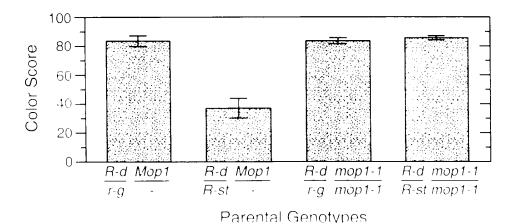
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 $\begin{array}{ccc} R-d & B-bar & pl-sr & Mop 1 \\ r-g & B' & Pl' & mop 1-1 \end{array}$ R-st B-bar pl-sr Mop1 Χ $\overline{Pl'}$ $\overline{mop 1-1}$ B'

Four genotypes of interest among R-d-Pl' - progeny

<u>3</u>	<u>R-d</u>	<u>Mop1</u>	Light plant
16	r -g	-	
<u>3</u> 16	R-d R-st	<u>Mop1</u>	Light plant
<u>1</u>	<u>R-d</u>	<u>mop1-1</u>	Dark plant
16	r-g	mop1-1	
<u>1</u>	<u>R-d</u>	<u>mop1-1</u>	Dark plant
16	R-st	mop1-1	

FIG._10A



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FIG._11A



FIG._11B

FIG._11C



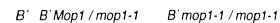
FIG._11D

B' B'Mop1 / mop1-1 B' mop1-1 / mop1-1

BEBEBEBEBEBEBE



FIG._12A



HMH M H M H M H M H M H M H M H M



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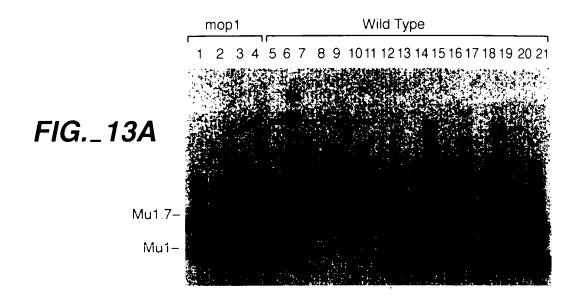


FIG._13B

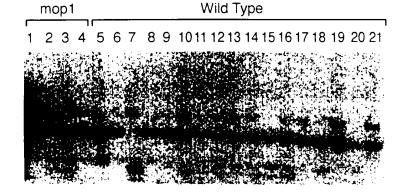


FIG._13C

MuDR
Wild Type

1 2 3 4 5 6 7 8 9 1011 1213 1415 1617 1819 20 21

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Wild Type mop1 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19



FIG._14A

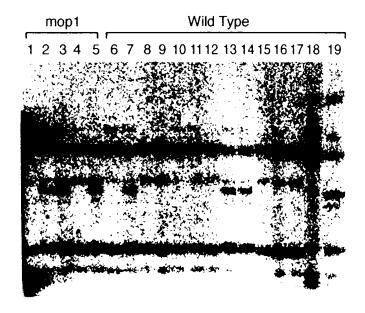


FIG._14B

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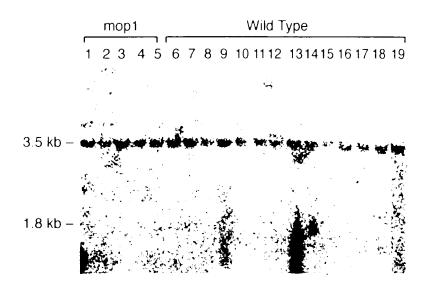


FIG._14C

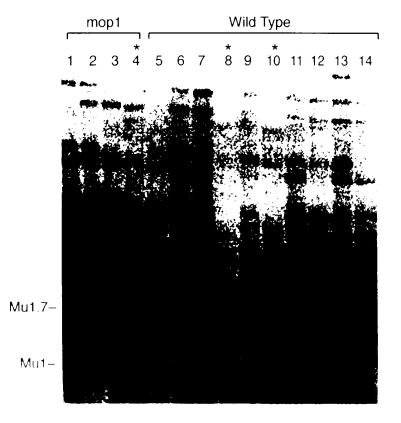


FIG._14D

Title GENETIC FUNCTIONS REQUIRED Inventor Vicki 1 CHANDI FR et al ART UNIT 1638
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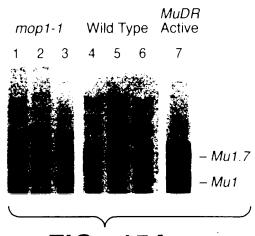


FIG._15A

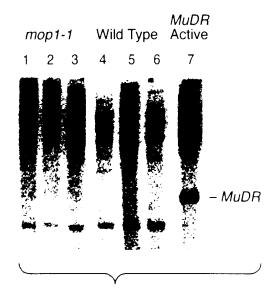
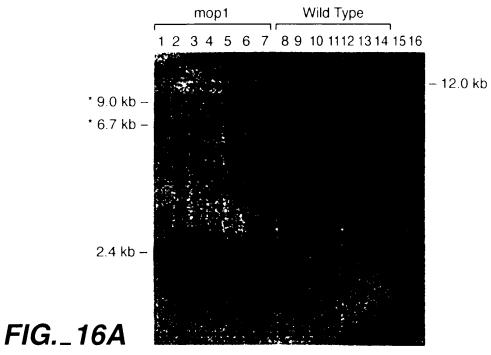


FIG._15B

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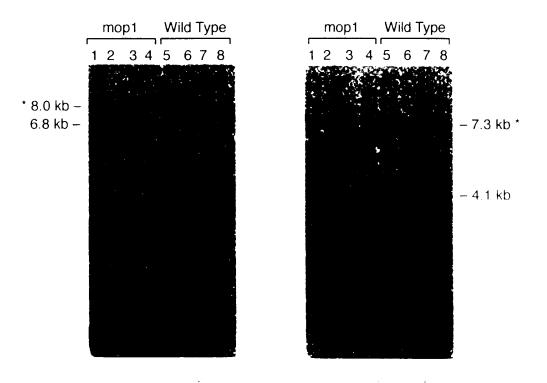


FIG._16B

FIG._16C

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FIG._ 16D

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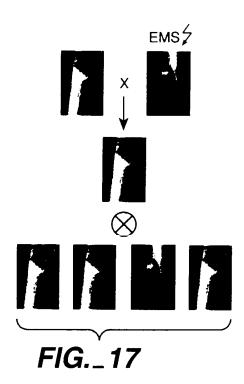
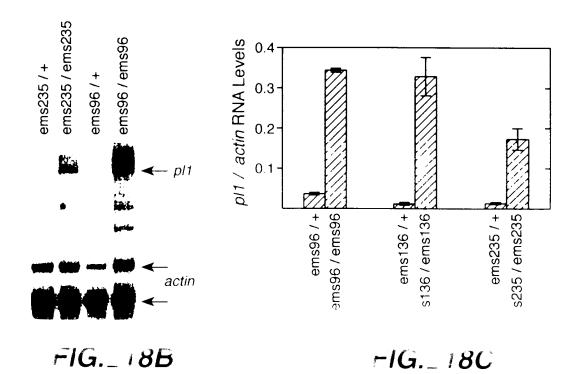


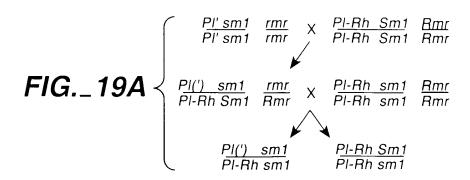


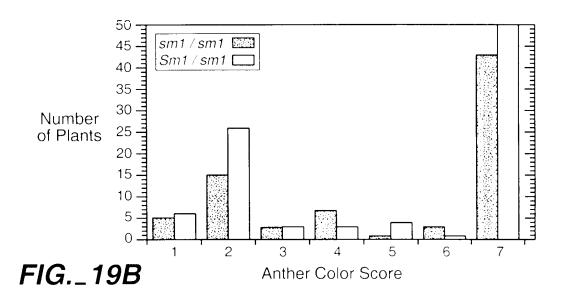
FIG._18A



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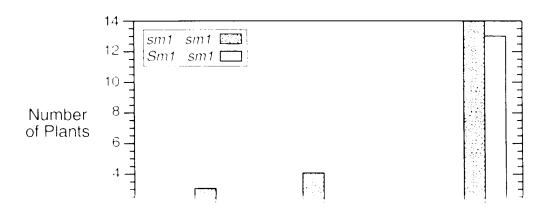


FIG._19C

Arther Color Scote

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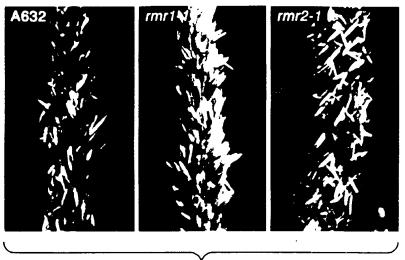


FIG._20

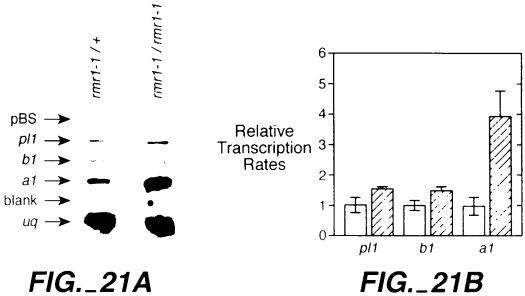
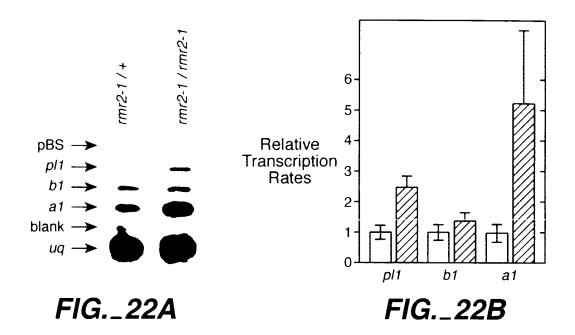


FIG._21A

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gl2 B-I wt
$$x + B' + (EMS \text{ treated pollen})$$

~7300 light $\frac{+ B' +}{gl2 (B-I)' \text{ wt}}$

One exceptional dark

Crossed to $gl2 B' \text{ wt}$
 $6 \frac{+ B' +}{gl2 B' \text{ wt}}$

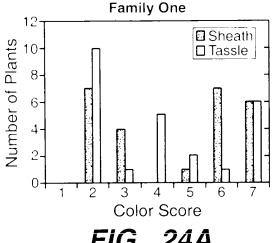
testcrossed to $gl2 B' \text{ wt}$
 $yle = \frac{1}{gl2 B' \text{ wt}}$

testcrossed to $gl2 B' \text{ wt}$
 $yle = \frac{1}{gl2 B' \text{ wt}}$
 $yle = \frac{1}{gl2 B' \text{ wt}}$

FIG._23

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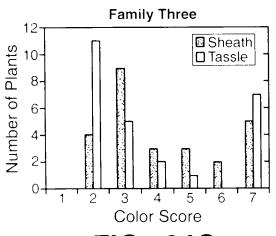
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Family Two 14 ■ Sheath Number of Plants 12-□Tassle 10-8-6 4-2 0 Color Score

FIG._24A

FIG._24B



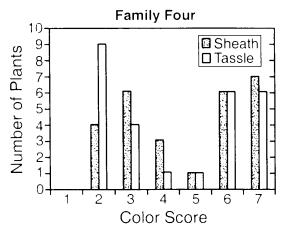
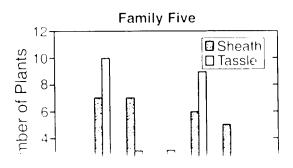
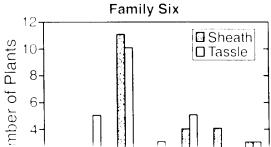


FIG._24C

FIG._24D





Unio State

FIG._24E

60 01 S6010 FIG._24F Title GENETIC FUNCTIONS REQUIRED Inventor Vicki I. CHANDI FR et al. ARTUNII 1638. April No. 109.972,865. Docket No. 41627206(200. Sheet 23 of 32.

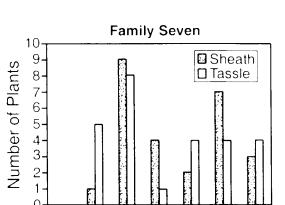


FIG._24G

Color Score

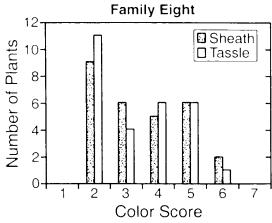


FIG._24H

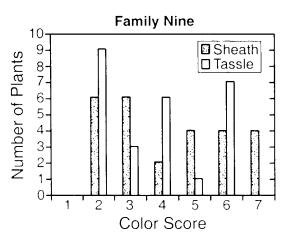
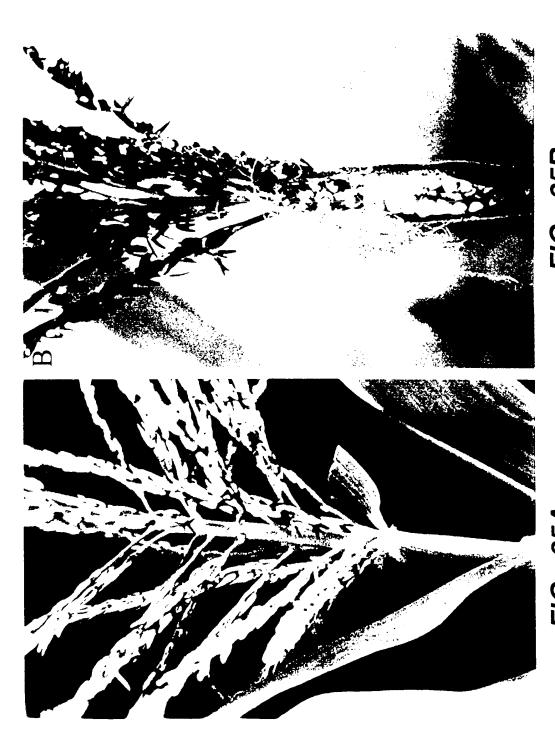


FIG._241

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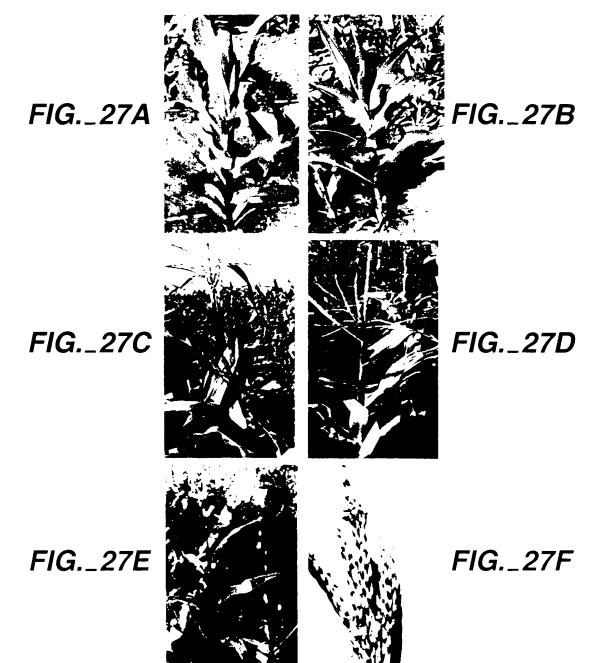
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CC2343 Dark CC2343 Dark CC2343 Light CC2343 Light b1 RNA mop1-1/+ mop1-1 / mop1-1 mop3-1 /+ mop3-1 / mop3-1 b1 RNA → Mop2-1 / Mop2-1 Mop2-1 / Mop2-1 Mop2-1 / +

61 RN

EtBr Staine Gel Title GENETIC FUNCTIONS REQUIRED Inventor Vicki L CHANDLER et al. ART UNIT 1638 Appln No. 09 972,805 Docket No. 416272061200

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FIG._29A



B' Mop2-1 / mop2 B' Mop2-1 / Mop2-1 35SB-I

rmr2-1 / rmr2-1 Rmr2 / rmr2-1 · 35SB-I

FIG._29B

FIG._29C



B' mop1-1 / mop1-1 B' Mop1 / mop1-1 35SB-I

FIG._29D



rmr1-1 / rmr1-1 Rmr1 / rmr1-1 35SB-I



Rmr2 / rmr2-1

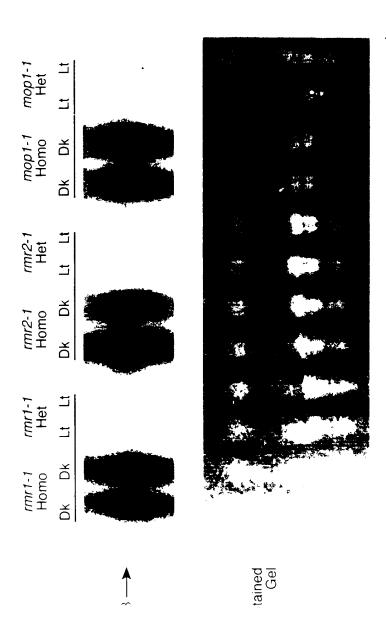


rmr2-1 / rmr2-1

BBBS

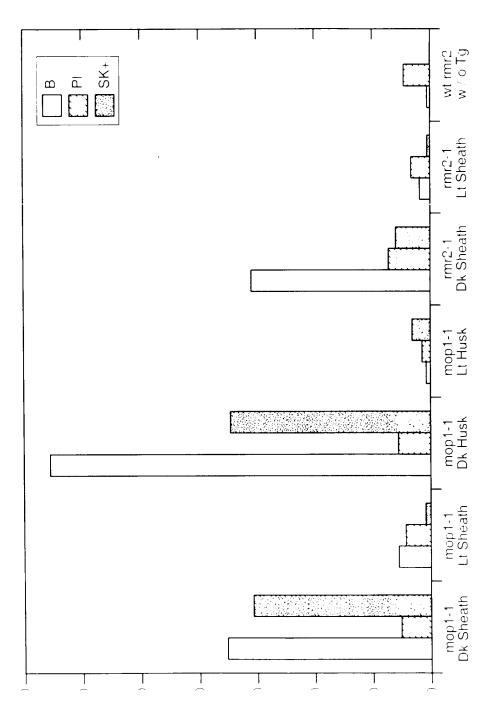
FIG._29E

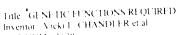
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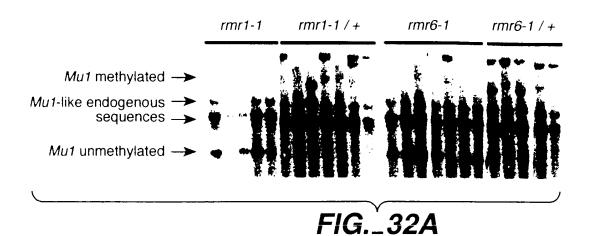




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rmr2-1 / rmr2-1

rmr2-1 / +

MuDR



FIG._32B

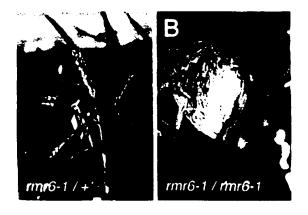
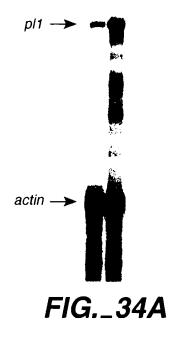


FIG._33A FIG._33B

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rmr6-1 / + rmr6-1 / rmr6-1



1G._34c